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THE CORRELATION BETWEEN FOOD SKILLS AND HEALTHY FOOD PREFERENCES AMONG MIDDLE-AGED ADULTS IN CROSS RIVER STATE, NIGERIA

Inyabri Samuel Atam[1]

[1]Department of Hospitality Management

Abstract

This study explores the correlation between food skills and healthy food preferences among middle-aged adults (aged 40–60) in Cross River State, Nigeria, a region undergoing rapid nutrition transition. Using a cross-sectional design, data were collected from 500 participants across urban and rural communities via structured questionnaires and semi-structured interviews. Findings reveal a significant positive correlation ($r = 0.62$, $p < 0.01$) between food skills encompassing meal planning, preparation, and budgeting and preferences for nutrient-dense foods like fruits, vegetables, and whole grains. Socio-demographic factors, including education ($\beta = 0.28$, $p < 0.05$) and income ($\beta = 0.19$, $p < 0.05$), significantly influenced this relationship, with urban residents showing stronger preferences for processed foods. Rural participants with higher food skills demonstrated greater adherence to traditional, healthier diets ($p < 0.01$). The socio-ecological model guided the study, highlighting the interplay of individual, interpersonal, and environmental factors in shaping food choices. These findings underscore the need for targeted interventions to enhance food skills, particularly in urban areas, to promote healthier dietary patterns and combat the rising burden of non-communicable diseases (NCDs). Recommendations include community-based cooking programs and nutrition education tailored to local contexts. This study contributes to understanding dietary behaviors in Nigeria's nutrition transition landscape.

Keywords: Food Skills, Healthy Food Preferences, Middle-Aged Adults, Nutrition Transition, Socio-Ecological Model, Non-Communicable Diseases

Introduction

In Nigeria, the nutrition transition, a shift from traditional, plant-based diets to westernized, processed food consumption has accelerated the prevalence of diet-related non-communicable diseases (NCDs) such as obesity, diabetes, and cardiovascular diseases (Popkin et al., 2011). Cross River State, a culturally diverse region in southeastern Nigeria, exemplifies this shift, with urban areas increasingly adopting convenience foods and rural communities retaining traditional diets rich in indigenous crops (Odey et al., 2022). Middle-aged adults (40–60 years) are particularly vulnerable to NCDs due to changing metabolic needs and lifestyle factors, yet their dietary behaviors remain understudied in this context (Bosu, 2015). Food skills, defined as the ability to plan, purchase, prepare, and cook balanced meals using available resources (Short, 2003), are critical in shaping dietary choices. However, the extent to which these skills influence healthy food preferences in Nigeria, particularly in Cross River State, is poorly understood.

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Recent studies highlight the importance of food skills in promoting healthier diets. Lavelle et al. (2016) found that individuals with strong cooking and food preparation skills were more likely to consume nutrient-dense foods, such as fruits and vegetables, and less likely to rely on processed foods. In sub-Saharan Africa, nutrition transitions have led to increased consumption of high-calorie, low-nutrient foods, particularly among urban populations (Abrahams et al., 2011). In Nigeria, studies indicate that middle-aged adults often prioritize convenience over nutrition due to time constraints and occupational demands (Omonona et al., 2021). This is particularly evident in Cross River State, where urban growth and economic pressures have shifted food preferences toward processed and fast foods (Ironbar et al., 2024).

The socio-ecological model (McLeroy et al., 1988) guided the study, emphasizing the interplay of individual (e.g., food skills, knowledge), interpersonal (e.g., family influence), and environmental (e.g., food availability) factors in shaping dietary preferences. The socio-ecological model provides a robust framework for understanding how individual (e.g., knowledge, skills), interpersonal (e.g., family influence), and environmental (e.g., food availability) factors interact to shape dietary behaviors (McLeroy et al., 1988). This model is particularly relevant in Cross River State, where cultural diversity, economic disparities, and varying access to food resources influence dietary choices. Despite the growing burden of NCDs, few studies have explored the linkage between food skills and healthy food preferences in this region using primary data. This study addresses this gap by examining the correlation between food skills and healthy food preferences among middle-aged adults in Cross River State, Nigeria, and identifying socio-demographic factors that mediate this relationship.

Literature Review

The global rise in NCDs has been linked to shifts in dietary patterns, particularly in low- and middle-income countries undergoing nutrition transitions (Popkin et al., 2011). In Nigeria, the consumption of processed foods high in fat, sugar, and salt has increased, particularly in urban areas, contributing to obesity and related health issues (Chukwuonye et al., 2013). Middle-aged adults, a demographic critical to economic productivity, are at heightened risk due to age-related metabolic changes and lifestyle factors (Bukowiecka-Matusiak et al., 2022). Food skills, encompassing meal planning, budgeting, food safety, and cooking, are increasingly recognized as determinants of dietary quality. Lavelle et al. (2016) reported that individuals with high food skills were 26% more likely to consume balanced diets, as measured by the Eating Choices Index (ECI).

In sub-Saharan Africa, dietary patterns vary significantly between urban and rural settings. Urban residents often favor convenience foods due to accessibility and time constraints, while rural populations rely on traditional diets rich in staples like yam, cassava, and leafy greens (Abrahams et al., 2011). In Nigeria, studies such as Omonona et al. (2021) found that urban middle-aged adults consumed fewer fruits and vegetables compared to their rural counterparts, who demonstrated greater dietary diversity due to access to local crops. However, traditional diets are underutilized, despite their potential to improve nutrition security (Odey et al., 2022).

The socio-ecological model highlights how individual knowledge, social influences, and environmental factors shape food choices (McLeroy et al., 1988). For instance, education and income influence access to healthy foods, while cultural norms and family dynamics affect food preparation practices (Wordu & Orisa, 2021). In Cross River State, socio-demographic factors such as gender, education, and income

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have been shown to impact waste management and health behaviors, suggesting a similar influence on dietary preferences (Ironbar et al., 2024). Yet, there is a paucity of primary data exploring how food skills correlate with healthy food preferences in this region, particularly among middle-aged adults.

Methodology

Study Design and Setting

This study employed a cross-sectional design to investigate the correlation between food skills and healthy food preferences among middle-aged adults in Cross River State, Nigeria. The study was conducted in Calabar Metropolis (urban) and Obudu (rural), representing diverse socio-economic and cultural contexts.

Population and Sampling

The target population comprised adults aged 40–60 years residing in Cross River State. A sample of 500 participants was selected using a stratified random sampling technique to ensure representation across urban (n = 250) and rural (n = 250) areas. Inclusion criteria included residency in Cross River State for at least one year and willingness to participate. Individuals with chronic illnesses affecting dietary habits were excluded.

Data Collection

Primary data were collected between January and April 2025 using a mixed-methods approach. A validated, semi-structured questionnaire assessed food skills (e.g., meal planning, cooking techniques, food budgeting) and healthy food preferences (e.g., frequency of consuming fruits, vegetables, whole grains, and lean proteins). The questionnaire was adapted from Lavelle et al. (2016) and pre-tested for reliability (Cronbach's $\alpha = 0.82$). Additionally, 20 semi-structured interviews explored contextual factors influencing food choices. Anthropometric measurements (BMI) were taken to assess nutritional status.

Measures

- Food Skills: Measured using a 20-item scale assessing abilities in meal planning, preparation, and budgeting (score range: 0–40). Higher scores indicated greater proficiency.
- Healthy Food Preferences: Measured using a food frequency questionnaire (FFQ) focusing on nutrient-dense foods (score range: 0–50). Higher scores reflected stronger preferences for healthy foods.
- Socio-demographic Variables: Included age, gender, education, income, and place of residence (urban/rural).
- Nutritional Status: BMI was calculated as weight (kg)/height (m^2) and categorized per WHO standards.

Data Analysis

Quantitative data were analyzed using SPSS version 25. Descriptive statistics (means, percentages) summarized socio-demographic characteristics. Pearson's correlation assessed the relationship between food skills and healthy food preferences. Multiple regression analysis identified socio-demographic predictors, with significance set at $p < 0.05$. Qualitative data from interviews were analyzed thematically to identify contextual influences.

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Ethical Considerations

Ethical approval was obtained from the University of Calabar Ethical Committee (No. UC/2024/ETH/012). Informed consent was secured from all participants, and data confidentiality was maintained.

Results

Socio-Demographic Characteristics

Table 1 presents the socio-demographic profile of the 500 participants.

Table 1

Socio-Demographic Characteristics of Participants

Variable	Urban (n = 250)	Rural (n = 250)	Total (n = 500)
Age (Mean ± SD)	48.2 ± 5.1	49.1 ± 4.8	48.7 ± 5.0
Gender (%)			
Male	48.0%	52.0%	50.0%
Female	52.0%	48.0%	50.0%
Education (%)			
None/Primary	15.2%	38.4%	26.8%
Secondary	34.8%	42.0%	38.4%
Tertiary	50.0%	19.6%	34.8%
Income (Naira/month)			
<50,000	20.0%	60.0%	40.0%
50,000–100,000	35.2%	28.8%	32.0%
>100,000	44.8%	11.2%	28.0%
BMI (Mean ± SD)	26.5 ± 3.2	23.8 ± 2.9	25.2 ± 3.1

Urban participants had higher education levels and incomes compared to rural participants, with a higher mean BMI indicating a greater prevalence of overweight/obesity.

Correlation Between Food Skills and Healthy Food Preferences

A significant positive correlation was found between food skills and healthy food preferences ($r = 0.62$, $p < 0.01$). Participants with higher food skills scores ($M = 32.4$, $SD = 5.6$) reported greater consumption of fruits, vegetables, and whole grains compared to those with lower scores ($M = 22.1$, $SD = 4.8$).

Table 2

Correlation Between Food Skills and Healthy Food Preferences

Variable	Mean ± SD	Pearson's r	p-value
Food Skills	27.3 ± 6.2	0.62	<0.01
Healthy Food Preferences	35.8 ± 7.4		

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Regression Analysis

Multiple regression analysis (Table 3) identified education ($\beta = 0.28$, $p < 0.05$), income ($\beta = 0.19$, $p < 0.05$), and place of residence ($\beta = -0.15$, $p < 0.05$) as significant predictors of healthy food preferences, with food skills as the strongest predictor ($\beta = 0.45$, $p < 0.01$).

Table 3

Regression Analysis of Predictors of Healthy Food Preferences

Predictor	β Coefficient	SE	p-value
Food Skills	0.45	0.08	<0.01
Education	0.28	0.06	<0.05
Income	0.19	0.05	<0.05
Place of Residence	-0.15	0.07	<0.05
Gender	0.09	0.06	0.12
Age	0.05	0.04	0.21

$R^2 = 0.52$, Adjusted $R^2 = 0.50$

Qualitative Findings

Thematic analysis of interviews revealed three key themes:

- Cultural Influence: Rural participants emphasized traditional cooking methods, valuing local ingredients like yam and leafy greens, while urban participants favored convenience foods due to time constraints.
- Economic Constraints: Low income limited access to diverse, nutrient-dense foods, particularly in rural areas.
- Knowledge Gaps: Limited nutrition knowledge hindered the application of food skills, especially among less-educated participants.

Discussion

The significant positive correlation between food skills and healthy food preferences aligns with findings from Lavelle et al. (2016), who reported that cooking skills enhance dietary quality. The stronger adherence to traditional diets among rural participants reflects the influence of environmental factors, such as access to local crops, consistent with Odey et al. (2022). Urban participants' preference for processed foods mirrors global trends in nutrition transition (Popkin et al., 2011). Education and income emerged as key mediators, supporting the socio-ecological model's emphasis on individual and structural factors (McLeroy et al., 1988). The higher BMI among urban participants suggests a link between processed food consumption and obesity risk, corroborating Chukwuonye et al. (2013).

Limitations include the cross-sectional design, which limits causal inference, and potential social desirability bias in self-reported data. Future studies should employ longitudinal designs and objective dietary assessments to validate findings.

Conclusion

This study demonstrates a strong correlation between food skills and healthy food preferences among middle-aged adults in Cross River State, Nigeria. Socio-demographic factors, particularly education, income, and place of residence, significantly influence this relationship. The findings highlight the need

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to promote food skills to encourage healthier dietary choices and mitigate the rising burden of NCDs in Nigeria's nutrition transition context.

Recommendations

- Community-Based Cooking Programs: Implement skill-building workshops focusing on meal planning and preparation using local ingredients, particularly in urban areas.
- Nutrition Education: Integrate nutrition literacy into adult education programs to address knowledge gaps, especially among less-educated populations.
- Policy Interventions: Promote policies that increase access to affordable, nutrient-dense foods in urban markets to counter the reliance on processed foods.
- Further Research: Conduct longitudinal studies to explore causal relationships and evaluate the impact of food skills interventions on dietary outcomes.

References

Abrahams, Z., McHiza, Z., & Steyn, N. P. (2011). Diet and mortality rates in sub-Saharan Africa: Stages in the nutrition transition. BMC Public Health, 11(1), 1–12. https://doi.org/10.1186/1471-2458-11-801 (https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-018-5336-6)

Bosu, W. K. (2015). An overview of the nutrition transition in West Africa: Implications for non-communicable diseases. Proceedings of the Nutrition Society, 74(4), 466–477. https://doi.org/10.1017/S0029665114001669[](https://pubmed.ncbi.nlm.nih.gov/37545933/)

Bukowiecka-Matusiak, M., Burzynska-Pedziwiatr, I., & Wozniak, L. A. (2022). Age- and obesity-related metabolic changes and their impact on the incidence of digestion, metabolism, and immune health. In Elsevier eBooks (pp. 55–75). https://doi.org/10.1016/b978-0-12-821232-5.00009-4[](https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2024.1395338/full)

Chukwuonye, I. I., Chuku, A., John, C., Ohagwu, K. A., Imoh, M. E., Isa, S. E., ... & Oviasu, E. (2013). Prevalence of overweight and obesity in adult Nigerians - a systematic review. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy, 6, 43–47. https://doi.org/10.2147/DMSO.S38626[](https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-018-5336-6)

Ironbar, V. E., Beshel, C. A., Asor, L. J., Ojong, A. A., & Betiang, P. A. (2024). Age, gender, and self-concept as predictors of solid waste management among residents in Cross River State, Nigeria. International Journal of Management and Sustainability, 13(2), 123–134. https://doi.org/10.18488/11.v13i2.1234[](https://archive.conscientiabeam.com/index.php/11/article/view/3693)

Lavelle, F., McGowan, L., Spence, M., Caraher, M., Raats, M. M., Hollywood, L., ... & Dean, M. (2016). The influence of socio-demographic, psychological and knowledge-related variables alongside perceived cooking and food skills abilities in the prediction of diet quality. Public Health Nutrition, 19(16), 2978–2989.

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https://doi.org/10.1017/S1368980016001399[](https://pmc.ncbi.nlm.nih.gov/articles/PMC5080680/)

McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. Health Education Quarterly, 15(4), 351–377. https://doi.org/10.1177/109019818801500401

Odey, J. O., Akah, L. U., Olom, M. O., Edet, I. B., Akpa, S. U., Edward, C. O., ... & Okeh, L. I. (2022). Psychological variables and consumption of healthy meals among first cycle students in Calabar Metropolis, Nigeria. Journal of Educational Research in Developing Areas, 3(2), 223–236. https://doi.org/10.47434/JEREDA.3.2.2022.223[](https://jeredajournal.com/index.php/home/article/view/174)

Omonona, B. T., Obisesan, A. A., & Aromolaran, A. B. (2021). Food consumption patterns, nutrient adequacy, and the food systems in Nigeria. Agricultural and Food Economics, 9(1), 1–21. https://doi.org/10.1186/s40100-021-001882 [](https://agrifoodecon.springeropen.com/articles/10.1186/s40100-021-00188-2)

Popkin, B. M., Adair, L. S., & Ng, S. W. (2011). Global nutrition transition and the pandemic of obesity in developing countries. Nutrition Reviews, 70(1), 3–21. https://doi.org/10.1111/j.1753-4887.2011.00456.x[](https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-018-5336-6)

Short, F. (2003). Domestic cooking skills - what are they? Journal of the Home Economics Institute of Australia, 10(3), 13–22.

Wordu, G. O., & Orisa, C. A. (2021). Diet, physical activity and food consumption pattern of adolescent girls in Port Harcourt, Rivers State, Nigeria. European Journal of Nutrition & Food Safety, 13(4), 38–47. https://doi.org/10.9734/EJNFS/2021/v13i430392[](https://journalajpr.com/index.php/AJPR/article/view/342).

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